PHYSIOLOGICAL RESPONSE SOME RED CHILI GENOTIPE (Capsicum annuum L.) ON HIGH TEMPERATURE

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ABSTRACT

One of the environmental stresses is high temperature, which can lead to physiological changes that can adversely affect the plant growth and productivity. This study aims to obtain the genotype of red chilli plants (Capsicum annuum L.) which is tolerant to high temperature stress. This research was conducted from March 2017 until June 2017 in the field of research faculty of Agriculture and Animal seince State Islamic University Sultan Syarif Kasim Riau. The method used in this research is a Factorial Random Design (RAL) which consists of 2 factors. The first factor is a temperature consisting of 2 levels, ie S0 = daily temperature (as control), S1 = temperature of stress (+) 4-8^{o}C from normal temperature. The second factor was 15 genotypes of red chili, UIN-046, UIN-047, UIN-048, UIN-049, UIN-050, UIN-051, UIN-052, UIN-053, UIN-054, UIN-055, UIN -056, UIN-057, UIN-058, UIN-059, UIN-060. Parameters observed by physiological parameters were stomatal conduction, photosynthetic rate, leaf temperature, transpiration rate and chlorophyll content comprising chlorophyll a, chlorophyll b and total chlorophyll. From the results of this study based on the value of SSI (Stress Susceptibility Index) genotypes UIN 054, UIN-058, UIN-059, and UIN-060 include the tolerant genotype of high temperature..

Keywords: red chili, stress, genotype, high temperature, tolerance